IN-5488DIV

CARBAMATE FUNCTIONAL ADDITION POLYMERS AND A METHOD FOR THEIR PREPARATION

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a divisional of U.S. Serial No. 10/285,214, filed on 31 October 2002, now abandoned.

BACKGROUND OF THE INVENTION

[0002] Carbamate-functional materials have found particular utility in coating compositions as crosslinkable resins. Curable coating compositions utilizing carbamate-functional resins are described, for example, in U.S. Patent Nos. 5,693,724, 5,693,723, 5,639,828, 5,512,639, 5,508,379, 5,451,656, 5,356,669, 5,336,566, and 5,532,061, each of which is incorporated herein by reference. These coating compositions can provide significant advantages over other coating compositions, such as hydroxy-functional acrylic/melamine coating compositions. For example, the coatings produced using carbamate-functional resins typically have excellent resistance to environmental etch (also called acid etch) and degradation. Environmental etch results in spots or marks on or in the coating that often cannot be rubbed out.

[0003] Automotive finishes are applied in a series of coating layers, with each coating layer providing an important function in the performance of the composite finish. For instance, primer coating layers are used to protect the substrate from corrosion, chipping, and delamination of the coating from the substrate. Surfacer and primer surfacer layers are commonly used to provide a smooth surface upon which to apply the topcoat layers, and may add increased corrosion protection or chip protection. The topcoat layers provide beauty as well as protection against scratching, marring, and environmentally-induced degradation. Topcoats for automotive and other industrial applications may be a one-layer coating, in which the color is generally uniform through the coating layer, or a clearcoat-basecoat composite coating, having a colored basecoat